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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,967	05/09/2005	Dietmar Berger	SB_516	2252

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EXAMINER
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ABDELWAHED, ALI F

ART UNIT	PAPER NUMBER
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3722

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/530,967

Applicant(s)

BERGER ET AL.

Examiner

Ali Abdelwahed

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 21-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-26 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claim 30 is objected to because of the following informalities:

It is suggested that in:

Claim 30, line 1, delete "28" and insert -29--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21, 22, 24-26, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 565907 A1 to Esslinger in view of U.S. Patent No. 3,735,461 to Andrews, Sr.

Esslinger discloses a cutting tool comprising a drill shank (1) defining a drill axis (y) and a cutting head being an interchangeably cutting insert (3) mounted at the end of the cutting tool (see fig.1) and having a straight, front cutting edge running substantially transversely with respect to the drill axis (see Abstract and fig.1); and an adjacent straight lateral cutting edge merging into a straight rear cutting edge running substantially transversely with respect to the drill axis (see Abstract and fig.1). The lateral cutting edge being formed on a section of the cutting head projecting from the

Art Unit: 3722

drill shank by a height having a value between 5% and 40% of a drill diameter and having a width having a value between 5% and 40% of the drill diameter, and a ratio of the height to the width lying in a range from substantially 1:0.7 to 1:1.3 (see fig.1). The section projects from the drill shank by a height having a value between 5% and 30% of a drill diameter and having a width having a value between 10% and 30% of the drill diameter (see fig.1).

However, Esslinger fails to teach the front cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis and preferably of about  $89.5^\circ$ , the lateral cutting edge being disposed at an angle of more than  $90^\circ$  with respect to the drill axis and preferably of about  $91^\circ$ , and the rear cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis and preferably of about  $89^\circ$ .

Nevertheless, Andrews, Sr. teaches a cutting tool comprising the front cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis, the lateral cutting edge being disposed at an angle of more than  $90^\circ$  with respect to the drill axis, and the rear cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis (see fig.1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tool of Esslinger, in view of Andrews, Sr., such that it would provide the tool of Esslinger with the concept of having the front cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis, the lateral cutting edge being disposed at an angle of more than  $90^\circ$  with respect to the drill axis, and the rear cutting edge being disposed at an angle of less than  $90^\circ$  with

Art Unit: 3722

respect to the drill axis for the purpose of increasing the number of possible machining operations capable of being performed by the tool.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the tool of Esslinger with the front cutting edge being disposed at an angle of about  $89.5^\circ$  with respect to the drill axis, the lateral cutting edge being disposed at an angle of about  $91^\circ$  with respect to the drill axis, and the rear cutting edge being disposed at an angle of about  $89^\circ$  with respect to the drill axis, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,259,709 to Hunt in view of U.S. Patent No. 3,735,461 to Andrews, Sr.

Hunt discloses a cutting tool comprising a drill shank (11) defining a drill axis (13) and a cutting head (15) disposed at the end of the cutting tool (see fig.1) and having a straight, front cutting edge running continuously straight substantially transversely with respect to and at least as far as the drill axis (see fig. 3); and an adjacent straight lateral cutting edge (17) merging into a straight rear cutting edge running substantially transversely with respect to the drill axis (see fig. 3). The lateral cutting edge being formed on a section of the cutting head projecting from the drill shank by a height having a value between 5% and 40% of a drill diameter and having a width having a value between 5% and 40% of the drill diameter, and a ratio of the height to the width

Art Unit: 3722

lying in a range from substantially 1:0.7 to 1:1.3 (see figs.1, 3). The section projects from the drill shank by a height having a value between 5% and 30% of a drill diameter and having a width having a value between 10% and 30% of the drill diameter (see figs.1, 3).

However, Hunt fails to teach the front cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis and preferably of about  $89.5^\circ$ , the lateral cutting edge being disposed at an angle of more than  $90^\circ$  with respect to the drill axis and preferably of about  $91^\circ$ , and the rear cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis and preferably of about  $89^\circ$ .

Nevertheless, Andrews, Sr. teaches a cutting tool comprising the front cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis, the lateral cutting edge being disposed at an angle of more than  $90^\circ$  with respect to the drill axis, and the rear cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis (see fig.1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tool of Hunt, in view of Andrews, Sr., such that it would provide the tool of Hunt with the concept of having the front cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis, the lateral cutting edge being disposed at an angle of more than  $90^\circ$  with respect to the drill axis, and the rear cutting edge being disposed at an angle of less than  $90^\circ$  with respect to the drill axis for the purpose of increasing the number of possible machining operations capable of being performed by the tool.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the tool of Hunt with the front cutting edge being disposed at an angle of about  $89.5^\circ$  with respect to the drill axis, the lateral cutting edge being disposed at an angle of about  $91^\circ$  with respect to the drill axis, and the rear cutting edge being disposed at an angle of about  $89^\circ$  with respect to the drill axis, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esslinger in view of Andrews, Sr. as applied to claim 21 above, and further in view of JP 10156604 A to Iwasaki.

Esslinger, as modified, discloses the claimed invention except for the interchangeable cutting insert being formed as a reversible cutting plate with a substantially rectangular outline being a substantially square outline formed with two projecting sections disposed opposite each other in an inverted mirror-image relationship. However, Iwasaki teaches a cutting tool (14) comprising an interchangeable cutting insert (1) being formed as a reversible cutting plate with a substantially rectangular outline being a substantially square outline (see fig.1) formed with two projecting sections (3) disposed opposite each other in an inverted mirror-image relationship (see fig.1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the tool of Esslinger, as per the teachings of Iwasaki, such that it would provide the tool of

Art Unit: 3722

Esslinger with the concept of the aforementioned limitations for the purpose of increasing the life of the cutting insert, thereby providing a more economical cutting insert.

***Allowable Subject Matter***

Claim 27 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ali Abdelwahed whose telephone number is (571) 272-4417. The examiner can normally be reached Monday through Friday from 10:00 A.M. to 6:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on (571) 272-4502.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the examiner or the examiner's supervisor.

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04/14/2006

  
BOYER D. ASHLEY  
SUPERVISORY PATENT EXAMINER